[FIG.1]

TRANSMISSION DATA

101 CODING SECTION

102 MODULATION SECTION

103 COMBINATION SECTION

104 S/P CONVERSION SECTION

105 IFFT SECTION

106 GI INSERTION SECTION

107 RADIO TRANSMISSION PROCESSING SECTION

109 PAPR CALCULATION SECTION

111 PEAK DECISION SECTION

112 INVERSE REPLICA GENERATION SECTION

114 SUB-BAND SELECTION SECTION

116 FFT SECTION

110 CUTOFF INSTRUCTION SECTION

113 SUB-BAND SPECIFYING SECTION

123 TRANSMISSION PARAMETER DETERMINING SECTION

124 MARGIN CALCULATION SECTION

RECEIVED DATA

122 DECODING SECTION

121 DEMODULATION SECTION

120 FFT SECTION

119 GI REMOVING SECTION

118 RADIO RECEPTION PROCESSING SECTION

[FIG.2]

MODULATION SCHEME

NO TRANSMISSION

CODING RATE R

RANGE OF RECEPTION CIR

BELOW -1dB

ABOVE 10dB

[FIG.3]

START

ST302 MEASURE PAPR

ST303 IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α?

ST304 GENERATE REPLICA

ST305 GENERATE INVERSE REPLICA

ST306 SELECT SUB-BAND

ST308 COMBINE

END

[FIG.4]

THRESHOLD

1-SYMBOL TIME

TIME

[FIG.5]

AMPLITUDE

THRESHOLD β

THRESHOLD -β

TIME

1-SYMBOL TIME

[FIG.6]

AMPLITUDE

THRESHOLD

TIME

1-SYMBOL TIME

[FIG.7]

AMPLITUDE

TIME

1-SYMBOL TIME

[FIG.8]

BAND 1

BAND 2

FREQUENCY

COMMUNICATION BAND F3

[FIG.9]

RECEPTION CIR

[FIG.10]

BAND 1

BAND 2

RECEPTION CIR

MARGIN

[FIG.11]

BAND 1

BAND 2

FREQUENCY

COMMUNICATION BAND F3

[FIG.12]

FREQUENCY

[FIG.14]

START

ST1402 MEASURE PAPR

ST1403 IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α?

ST1404 SET K=0

ST1405 SELECT N SUB-BAND (N=N+K)

ST1407 COMBINE

ST1409 SELECT K NEW SUB-BANDST1408 IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α?

END

[FIG.15]

BAND 1

BAND 2

BAND 3

FREQUENCY

COMMUNICATION BAND F3

[FIG.16]

DESIRED BLER

RECEPTION CIR

[FIG.17]

BAND 1

BAND 2

BAND 3

RECEPTION CIR

MARGIN

[FIG.18]

START

ST1802 MEASURE PAPR

ST1803 IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α?

ST1805 COMBINE

ST1806 IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α?

[FIG.19]

ST1807 SELECT K SUB-BAND

ST1808 SELECT N SUB-BAND (N=N-K)

ST1809 PREDETERMINED COUNT?

ST1810 IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD

α?

ST1811 RETURN K SUB-BAND REMOVED IMMEDIATELY BEFORE

ST1813 COMBINE

END

[FIG.20]

TRANSMISSION DATA

101 CODING SECTION

102 MODULATION SECTION

103 COMBINATION SECTION

104 S/P CONVERSION SECTION

105 IFFT SECTION

2001 CLIPPING SECTION

THRESHOLD INFORMATION

106 GI INSERTION SECTION

107 RADIO TRANSMISSION PROCESSING SECTION

109 PAPR CALCULATION SECTION

111 PEAK DECISION SECTION

112 INVERSE REPLICA GENERATION SECTION

114 SUB-BAND SELECTION SECTION

116 FFT SECTION

110 CUTOFF INSTRUCTION SECTION

113 SUB-BAND SPECIFYING SECTION

123 TRANSMISSION PARAMETER DETERMINING SECTION

124 MARGIN CALCULATION SECTION

RECEIVED DATA

122 DECODING SECTION

121 DEMODULATION SECTION

120 FFT SECTION

119 GI REMOVING SECTION

118 RADIO RECEPTION PROCESSING SECTION

[FIG.21]

TRANSMISSION DATA

101 CODING SECTION

102 MODULATION SECTION

2101 S/P CONVERSION SECTION

2102 IFFT SECTION

2103 COMBINATION SECTION

106 GI INSERTION SECTION

107 RADIO TRANSMISSION PROCESSING SECTION

109 PAPR CALCULATION SECTION

111 PEAK DECISION SECTION

112 INVERSE REPLICA GENERATION SECTION

114 SUB-BAND SELECTION SECTION

110 CUTOFF INSTRUCTION SECTION

113 SUB-BAND SPECIFYING SECTION

123 TRANSMISSION PARAMETER DETERMINING SECTION

124 MARGIN CALCULATION SECTION

RECEIVED DATA

122 DECODING SECTION

121 DEMODULATION SECTION

120 FFT SECTION

119 GI ELIMINATION SECTION

118 RADIO RECEPTION PROCESSING SECTION

[FIG.22]

START

ST2202 MEASURE PAPR

ST2203 IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α?

ST2204 GENERATE REPLICA

ST2205 GENERATE INVERSE REPLICA

ST2206 SELECT SUB-BAND

ST2207 COMBINE

END

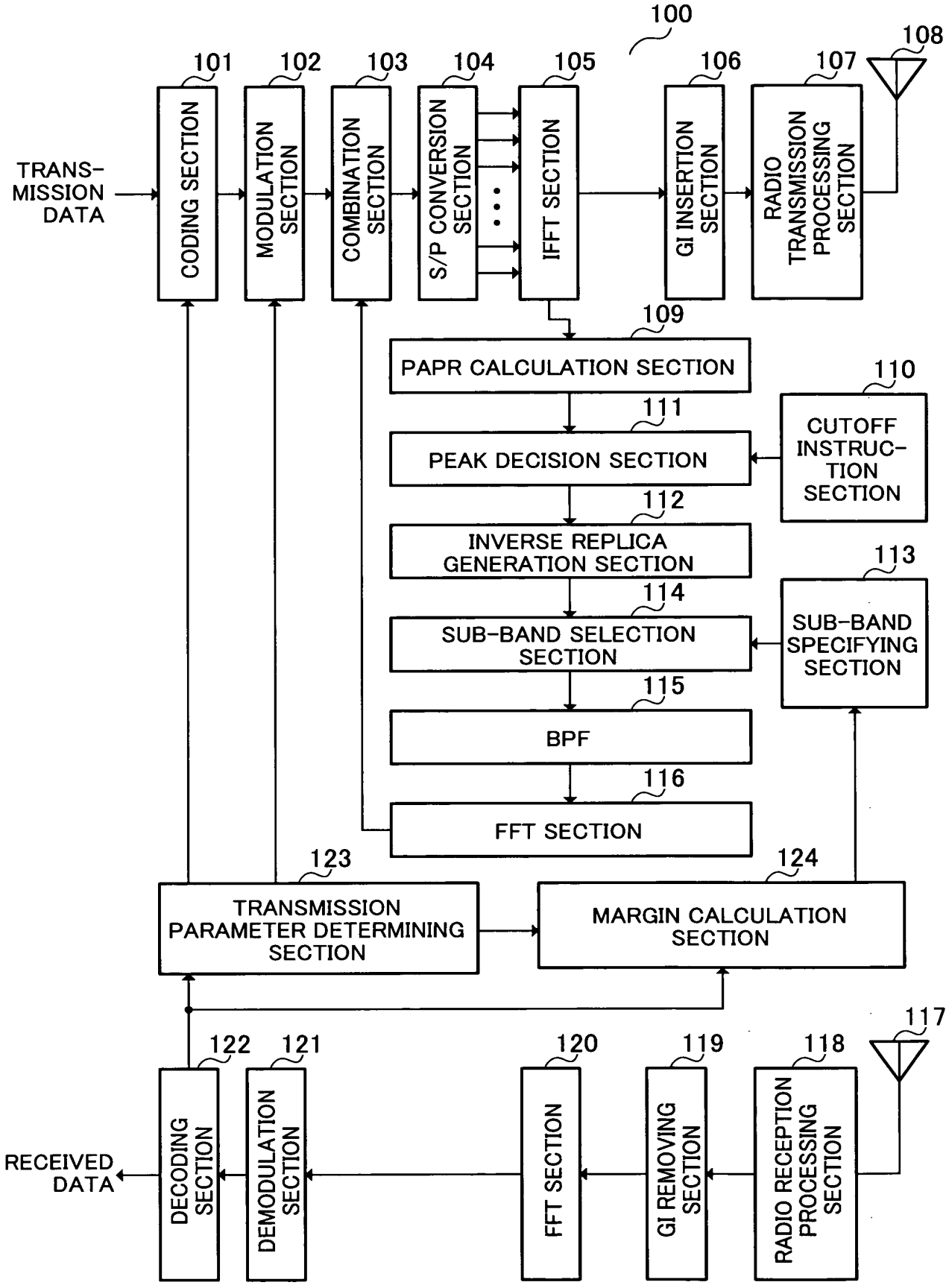
100
101
102
103
104
105
106
107
108
TRANS-
MISSION
DATA
CODING SECTION
MODULATION SECTION
COMBINATION SECTION
S/P CONVERSION SECTION
IFFT SECTION
GI INSERTION SECTION
RADIO TRANSMISSION PROCESSING SECTION
109
PAPR CALCULATION SECTION
110
111
PEAK DECISION SECTION
CUTOFF INSTRUC-TION SECTION
112
INVERSE REPLICA GENERATION SECTION
113
114
SUB-BAND SELECTION SECTION
SUB-BAND SPECIFYING SECTION
115
BPF
116
FFT SECTION
123
124
TRANSMISSION PARAMETER DETERMINING SECTION
MARGIN CALCULATION SECTION
117
122
121
120
119
118
RECEIVED
DATA
DECODING SECTION
DEMODULATION SECTION
FFT SECTION
GI REMOVING SECTION
RADIO RECEPTION PROCESSING SECTION

FIG.1

MCS	MODULATION SCHEME	CODING RATE R	RANGE OF RECEPTION CIR
0	NO TRANSMISSION		BELOW −1dB
1	BPSK	R=1/3	−1～1dB
2	BPSK	R=1/2	1～2.5dB
3	QPSK	R=1/3	2.5～3.5dB
4	8PSK	R=1/3	3.5～5dB
5	16QAM	R=1/3	5～7.5dB
6	16QAM	R=1/2	7.5～10dB
7	16QAM	R=3/4	ABOVE 10dB

FIG.2

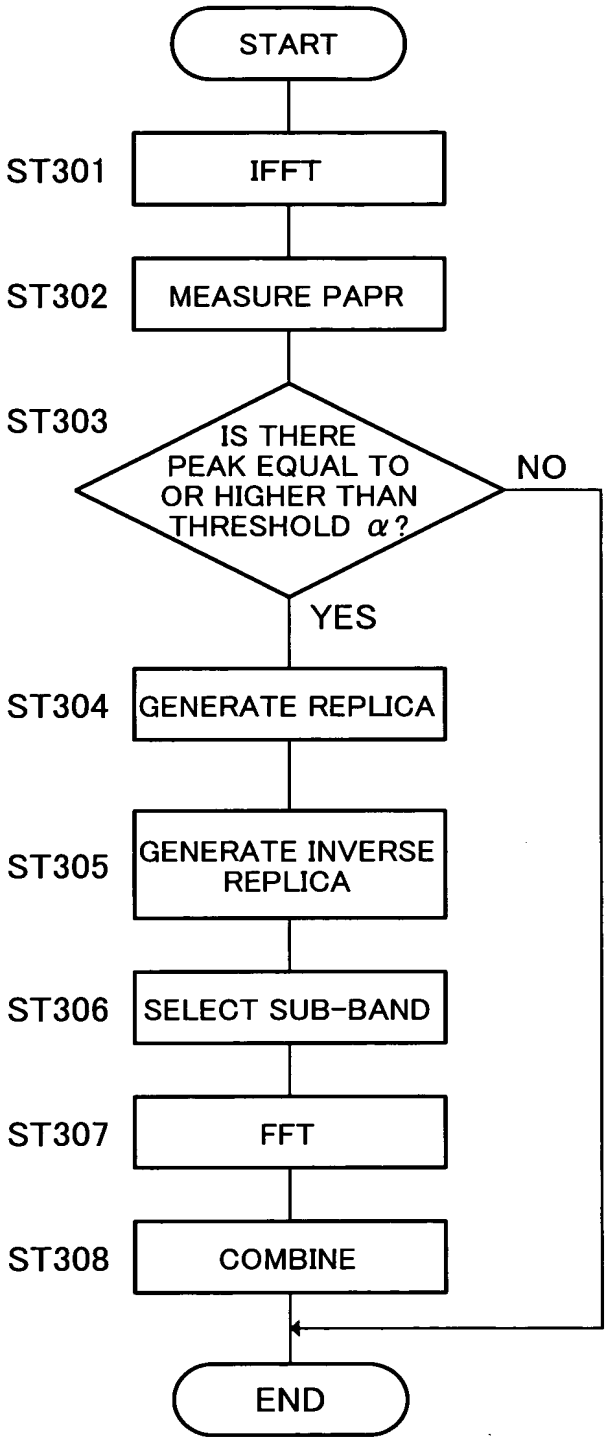
START
ST301
IFFT
ST302
MEASURE PAPR
ST303
IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α?
NO
YES
ST304
GENERATE REPLICA
ST305
GENERATE INVERSE REPLICA
ST306
SELECT SUB-BAND
ST307
FFT
ST308
COMBINE
END

FIG.3

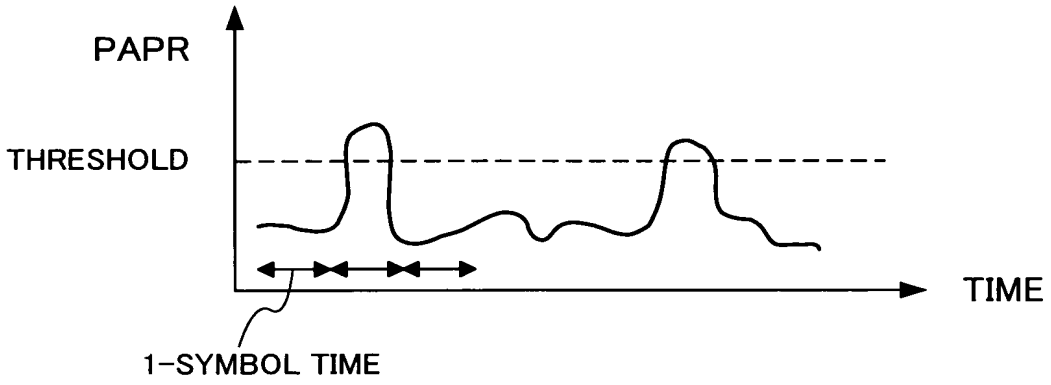
PAPR
THRESHOLD
TIME
1-SYMBOL TIME

FIG.4

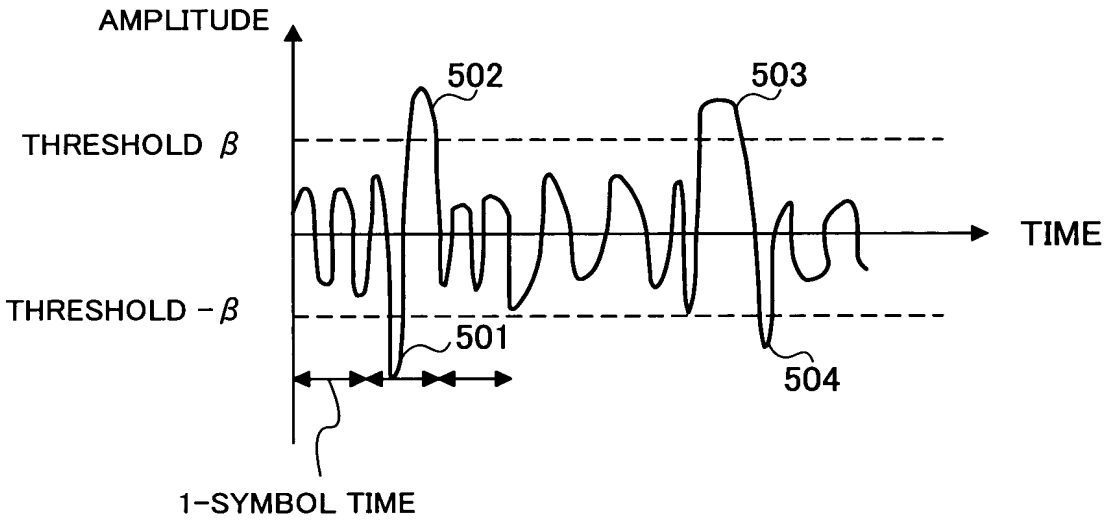
AMPLITUDE
502
503
THRESHOLD β
TIME
THRESHOLD -β
501
504
1-SYMBOL TIME

FIG.5

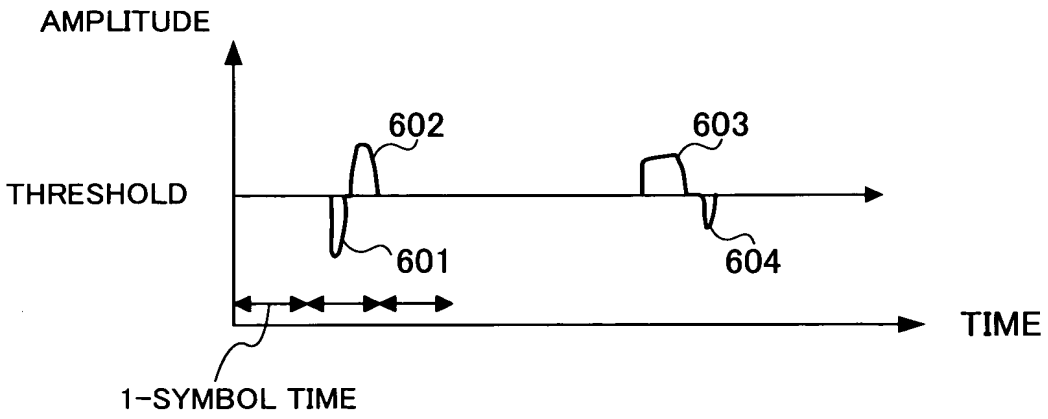
AMPLITUDE
602
603
THRESHOLD
601
604
TIME
1-SYMBOL TIME

FIG.6

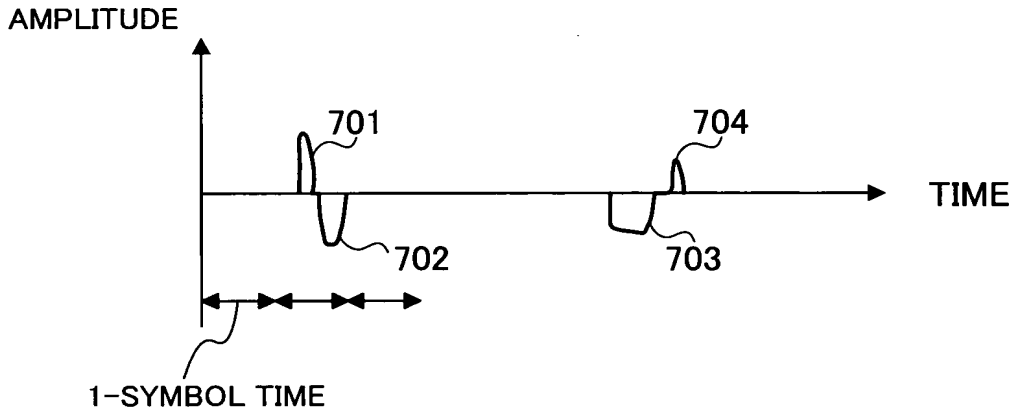
AMPLITUDE
701
704
TIME
702
703
1-SYMBOL TIME

FIG.7

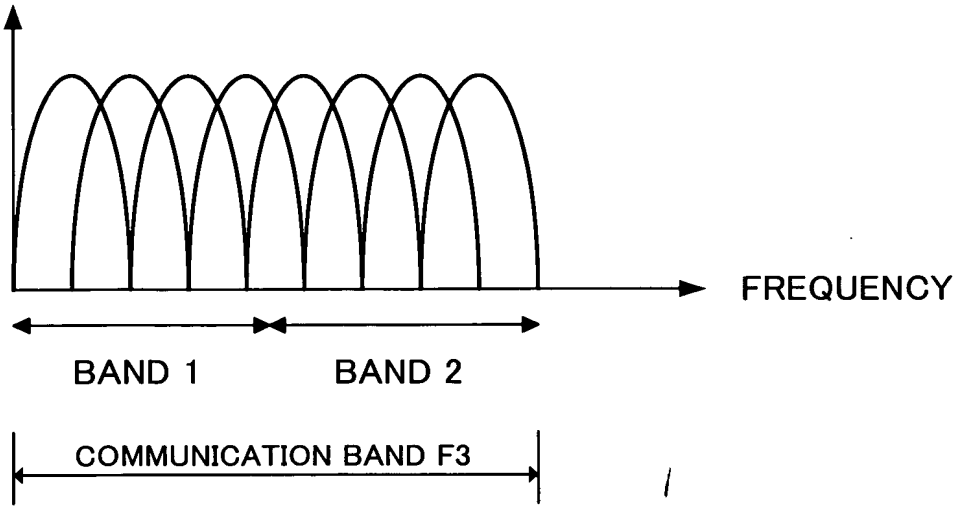
FREQUENCY
BAND 1
BAND 2
COMMUNICATION BAND F3

FIG.8

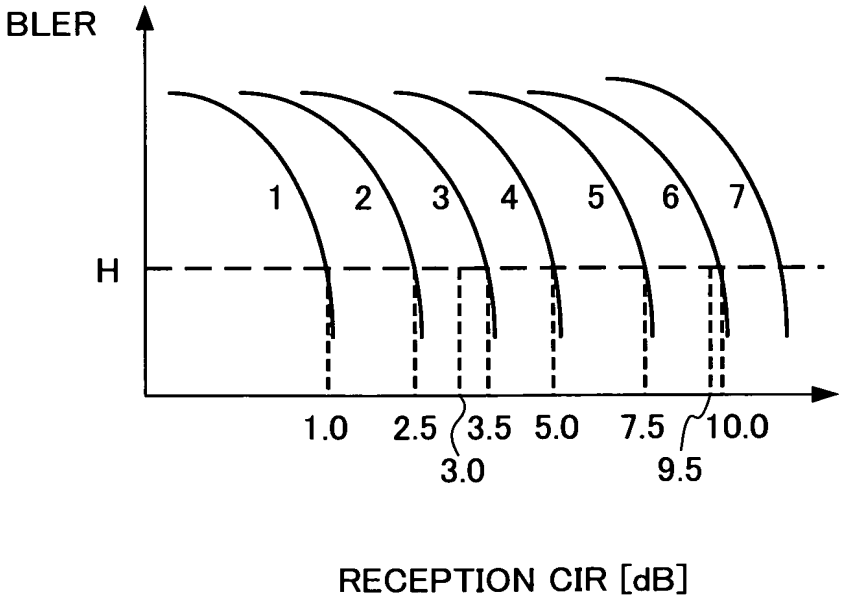
BLER
1
2
3
4
5
6
7
H
1.0
2.5
3.0
3.5
5.0
7.5
9.5
10.0
RECEPTION CIR [dB]

FIG.9

	RECEPTION CIR	MARGIN	MCS
BAND 1	9.5dB	2dB	6
BAND 2	3dB	0.5dB	3

FIG.10

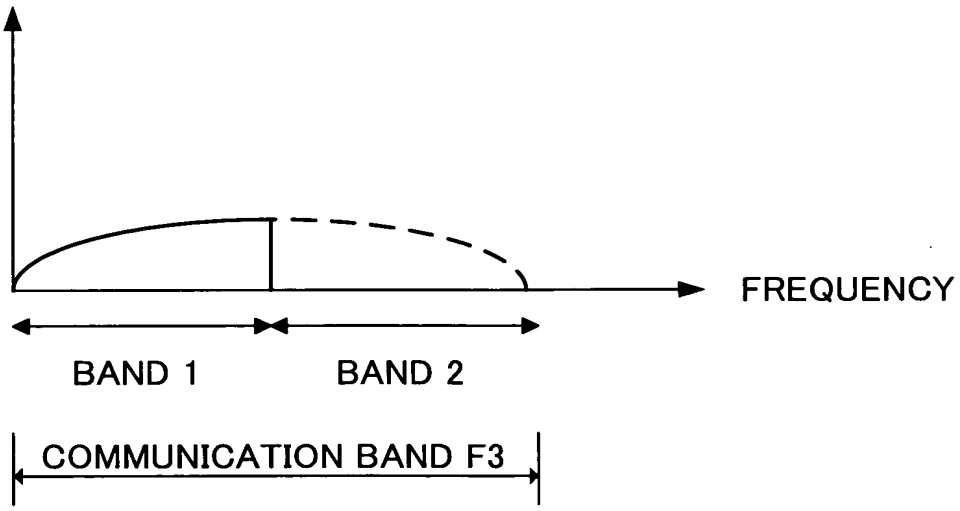

FIG.11

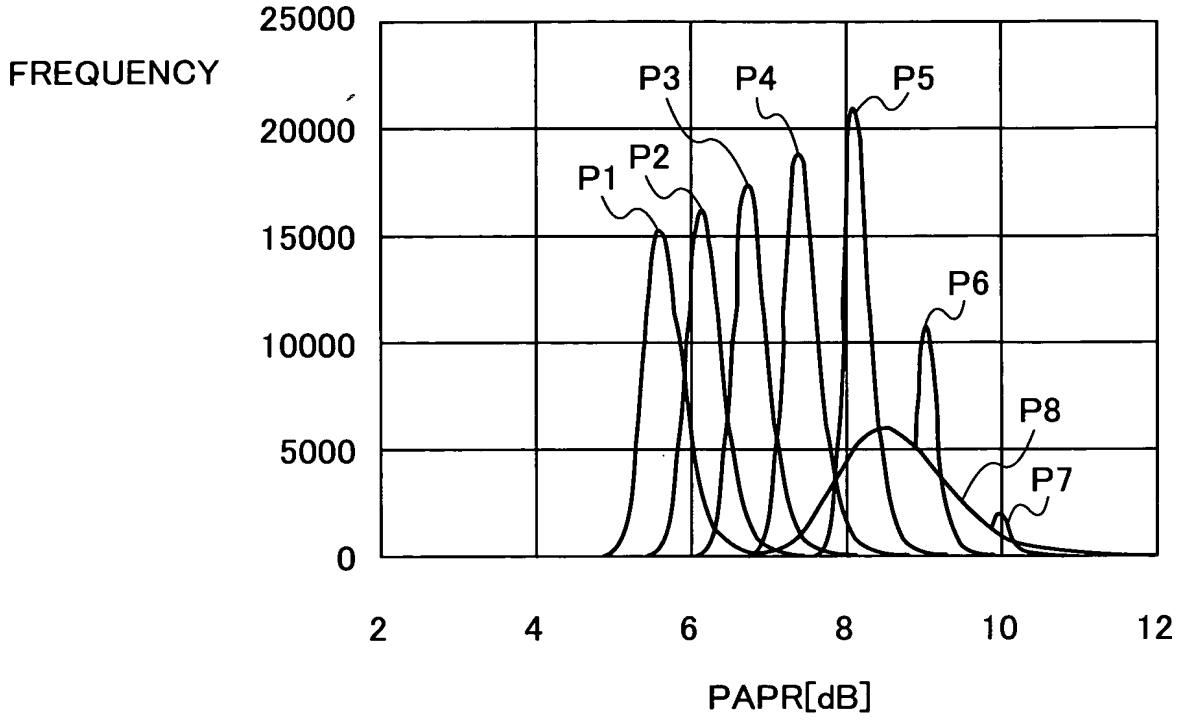
FREQUENCY
25000
20000
15000
10000
5000
0
P1
P2
P3
P4
P5
P6
P7
P8
2
4
6
8
10
12
PAPR[dB]

FIG.12

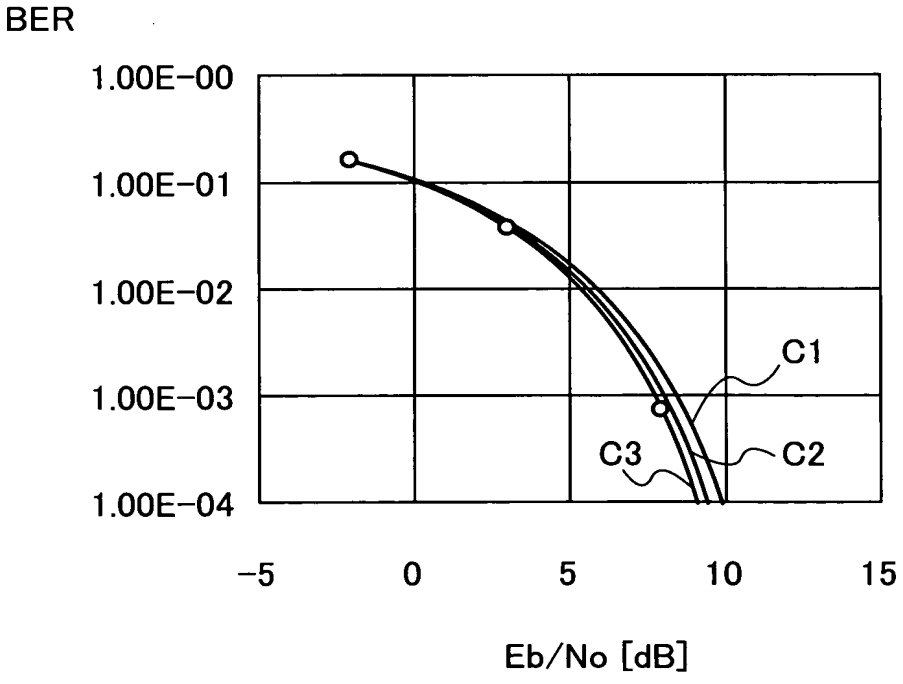
BER
1.00E-00
1.00E-01
1.00E-02
1.00E-03
1.00E-04
C1
C2
C3
-5
0
5
10
15
Eb/No [dB]

FIG.13

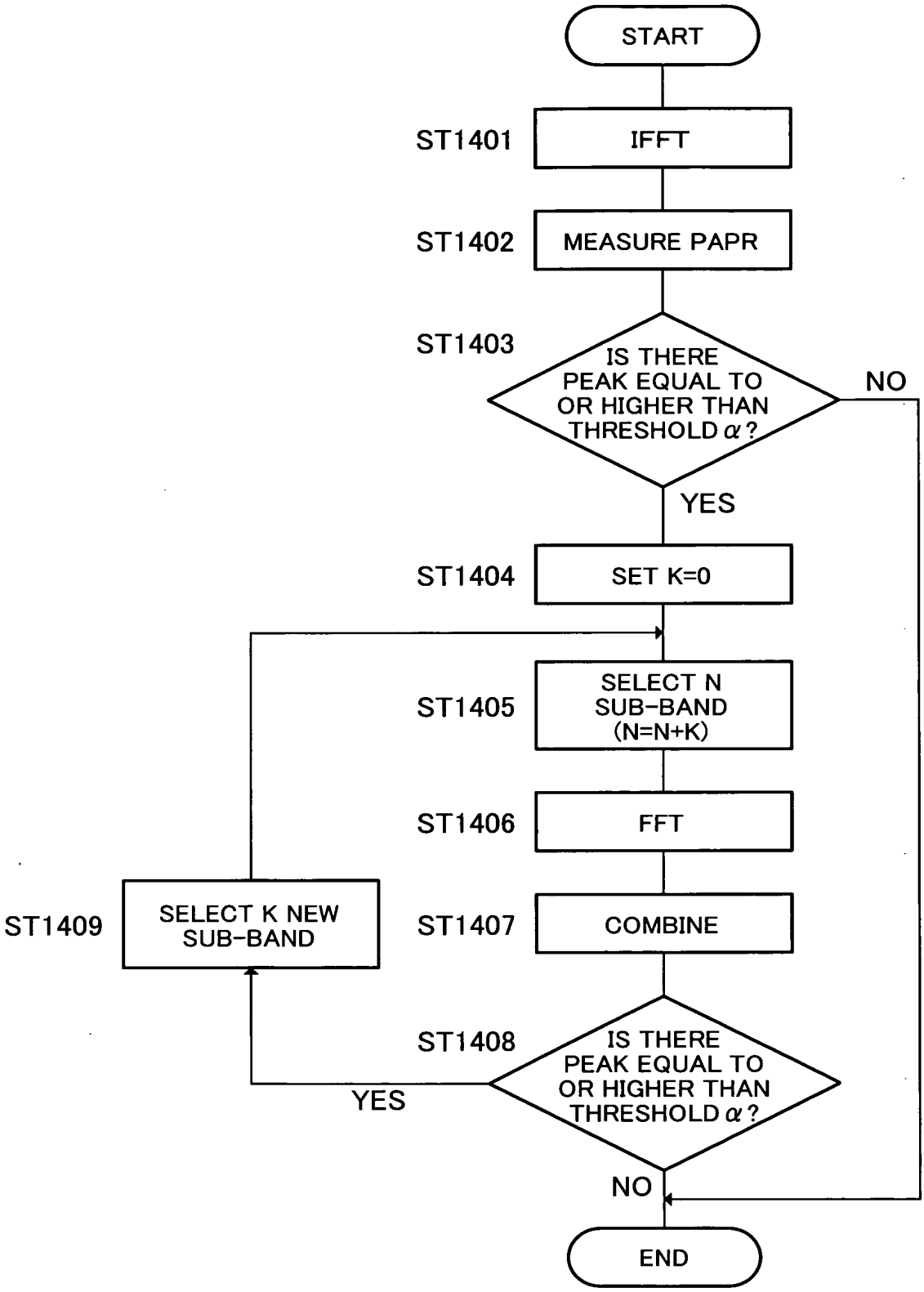
START
ST1401
IFFT
ST1402
MEASURE PAPR
ST1403
IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α?
NO
YES
ST1404
SET K=0
ST1405
SELECT N SUB-BAND (N=N+K)
ST1406
FFT
ST1407
COMBINE
ST1408
IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α?
YES
ST1409
SELECT K NEW SUB-BAND
NO
END

FIG.14

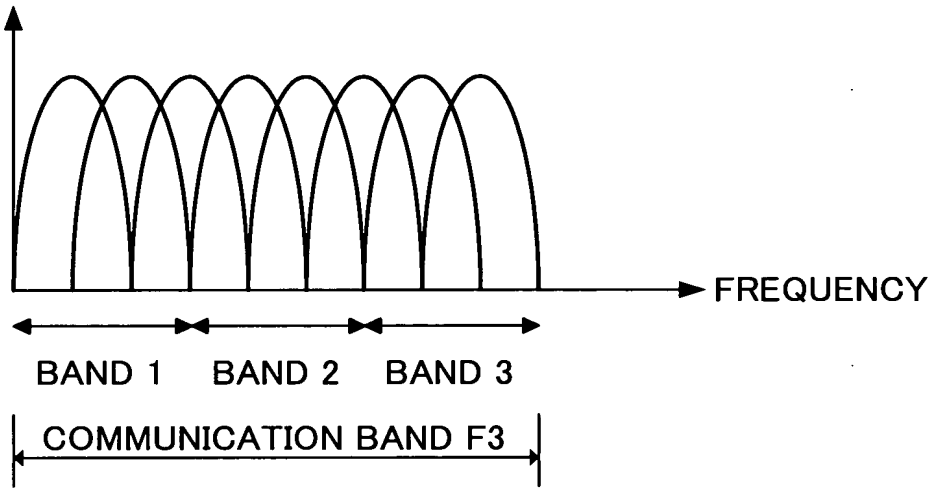
FREQUENCY
BAND 1
BAND 2
BAND 3
COMMUNICATION BAND F3

FIG.15

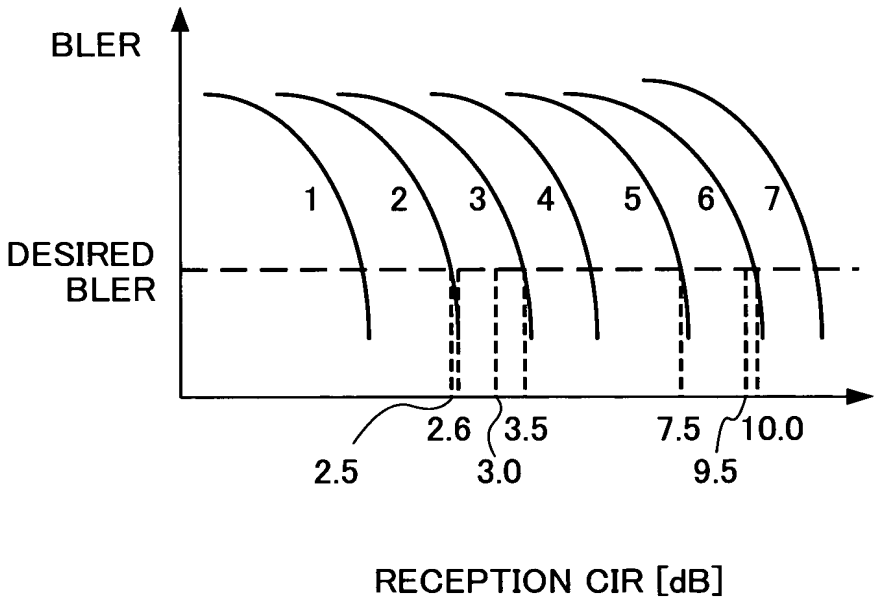
BLER
DESIRED BLER
1
2
3
4
5
6
7
2.5
2.6
3.0
3.5
7.5
9.5
10.0
RECEPTION CIR [dB]

FIG.16

	RECEPTION CIR	MARGIN	MCS
BAND 1	9.5dB	2dB	6
BAND 2	3dB	0.5dB	3
BAND 3	2.6dB	0.1dB	3

FIG.17

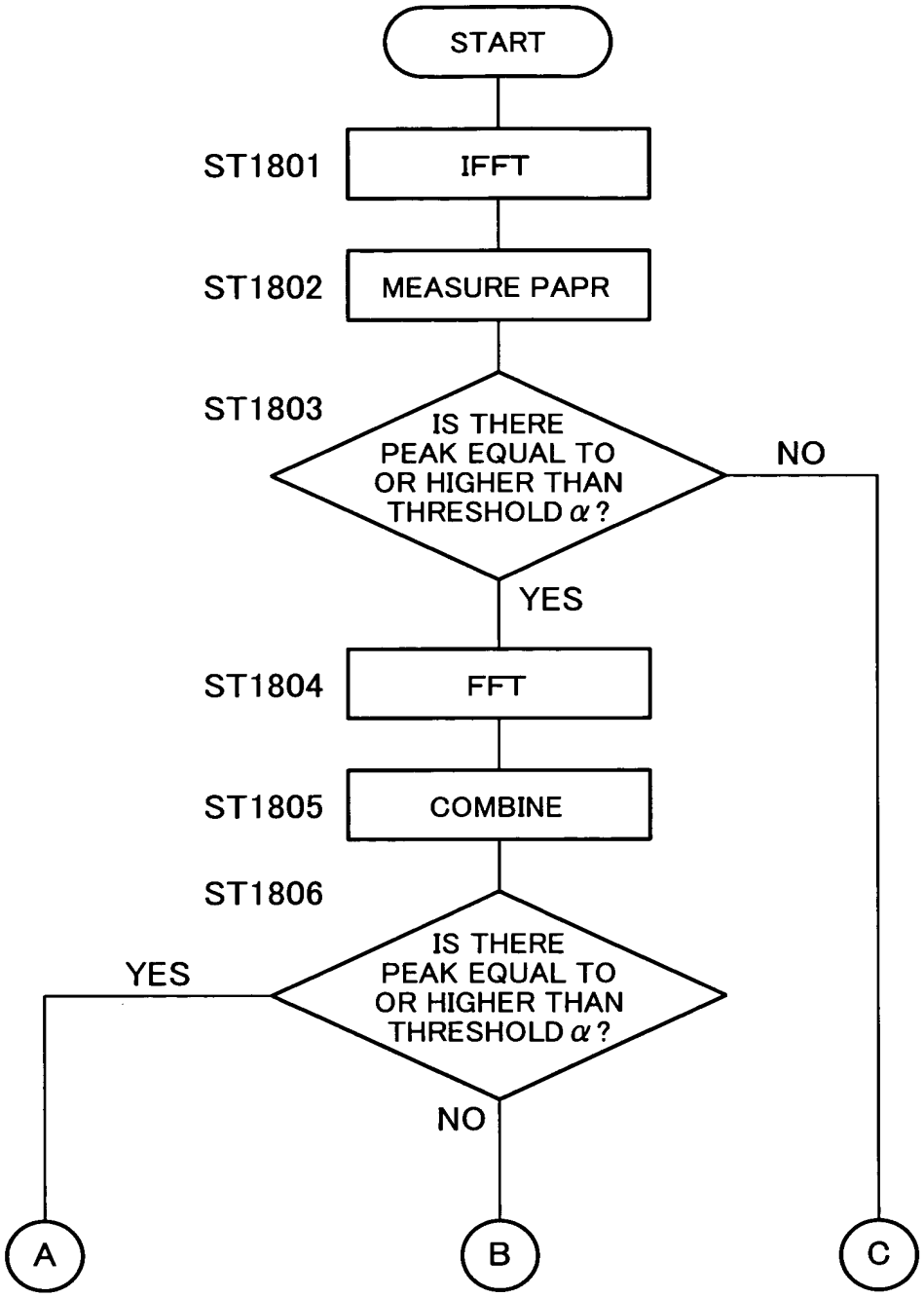
START
ST1801
IFFT
ST1802
MEASURE PAPR
ST1803
IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α ?
NO
YES
ST1804
FFT
ST1805
COMBINE
ST1806
IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α ?
YES
NO
A
B
C

FIG.18

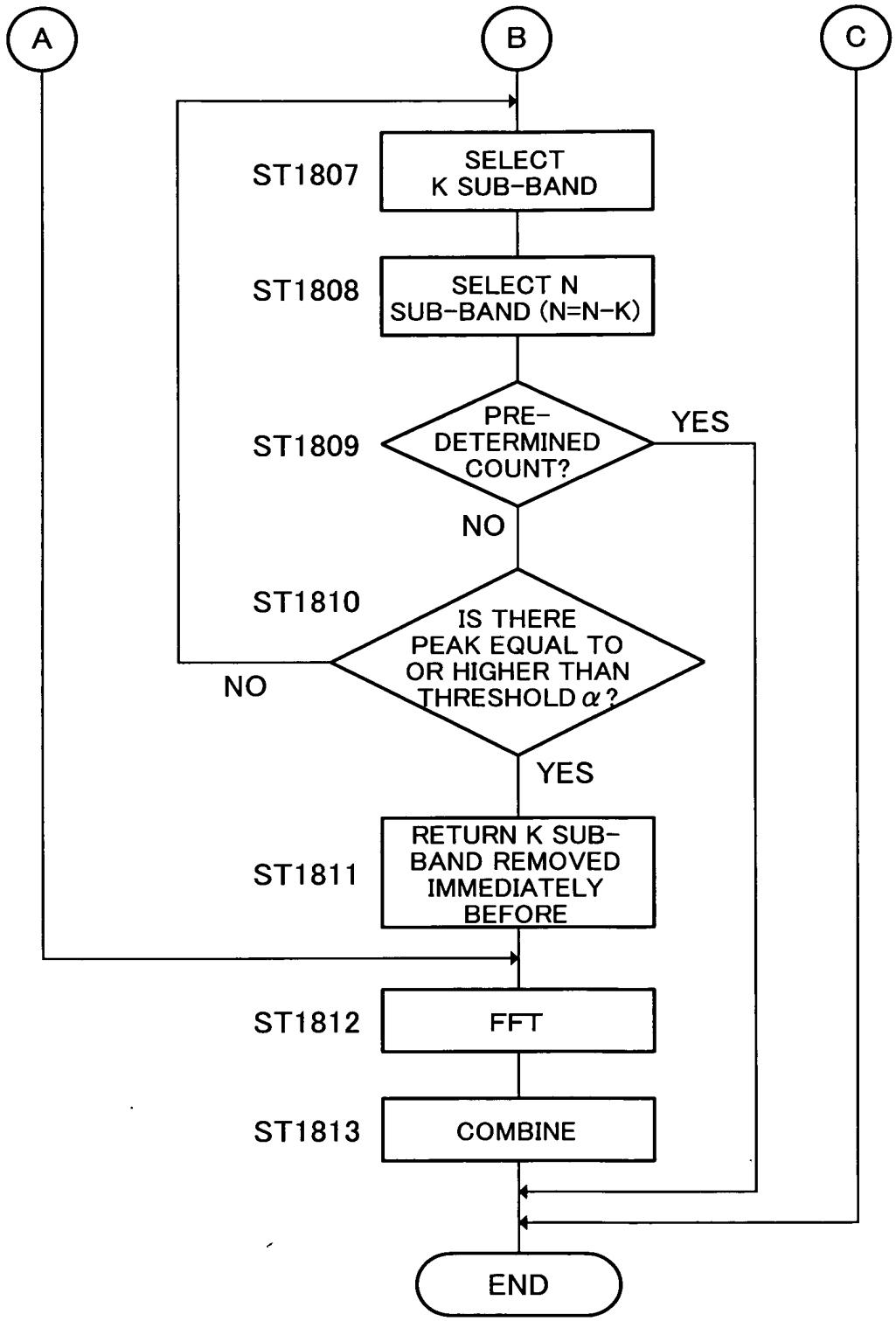
A
B
C
ST1807
SELECT K SUB-BAND
ST1808
SELECT N SUB-BAND (N=N-K)
ST1809
PRE-DETERMINED COUNT?
YES
NO
ST1810
IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α?
NO
YES
ST1811
RETURN K SUB-BAND REMOVED IMMEDIATELY BEFORE
ST1812
FFT
ST1813
COMBINE
END

FIG.19

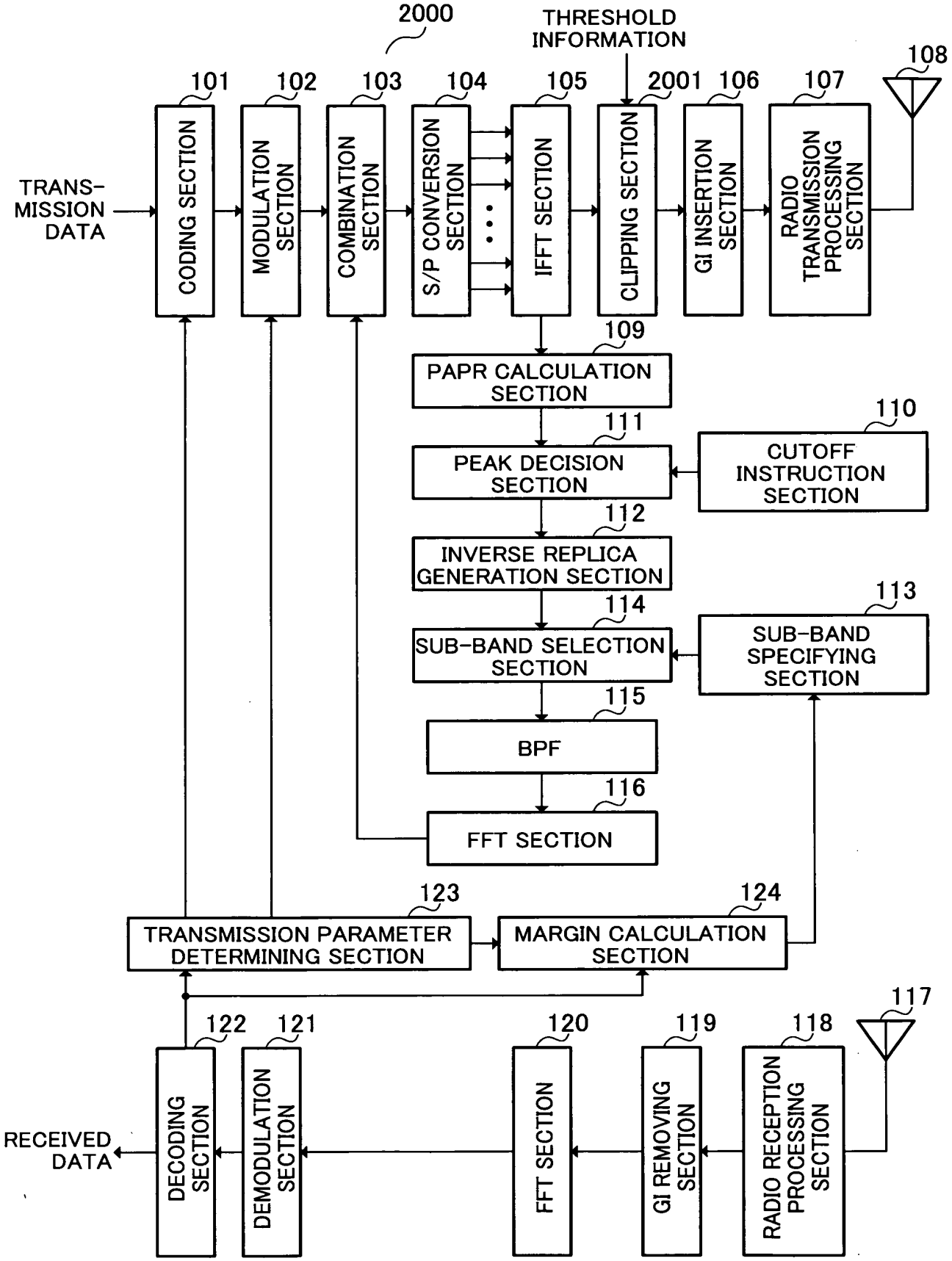
2000
THRESHOLD INFORMATION
108
101
102
103
104
105
2001
106
107
TRANS-MISSION DATA
CODING SECTION
MODULATION SECTION
COMBINATION SECTION
S/P CONVERSION SECTION
IFFT SECTION
CLIPPING SECTION
GI INSERTION SECTION
RADIO TRANSMISSION PROCESSING SECTION
109
PAPR CALCULATION SECTION
110
111
PEAK DECISION SECTION
CUTOFF INSTRUCTION SECTION
112
INVERSE REPLICA GENERATION SECTION
113
114
SUB-BAND SELECTION SECTION
SUB-BAND SPECIFYING SECTION
115
BPF
116
FFT SECTION
123
124
TRANSMISSION PARAMETER DETERMINING SECTION
MARGIN CALCULATION SECTION
117
122
121
120
119
118
RECEIVED DATA
DECODING SECTION
DEMODULATION SECTION
FFT SECTION
GI REMOVING SECTION
RADIO RECEPTION PROCESSING SECTION

FIG.20

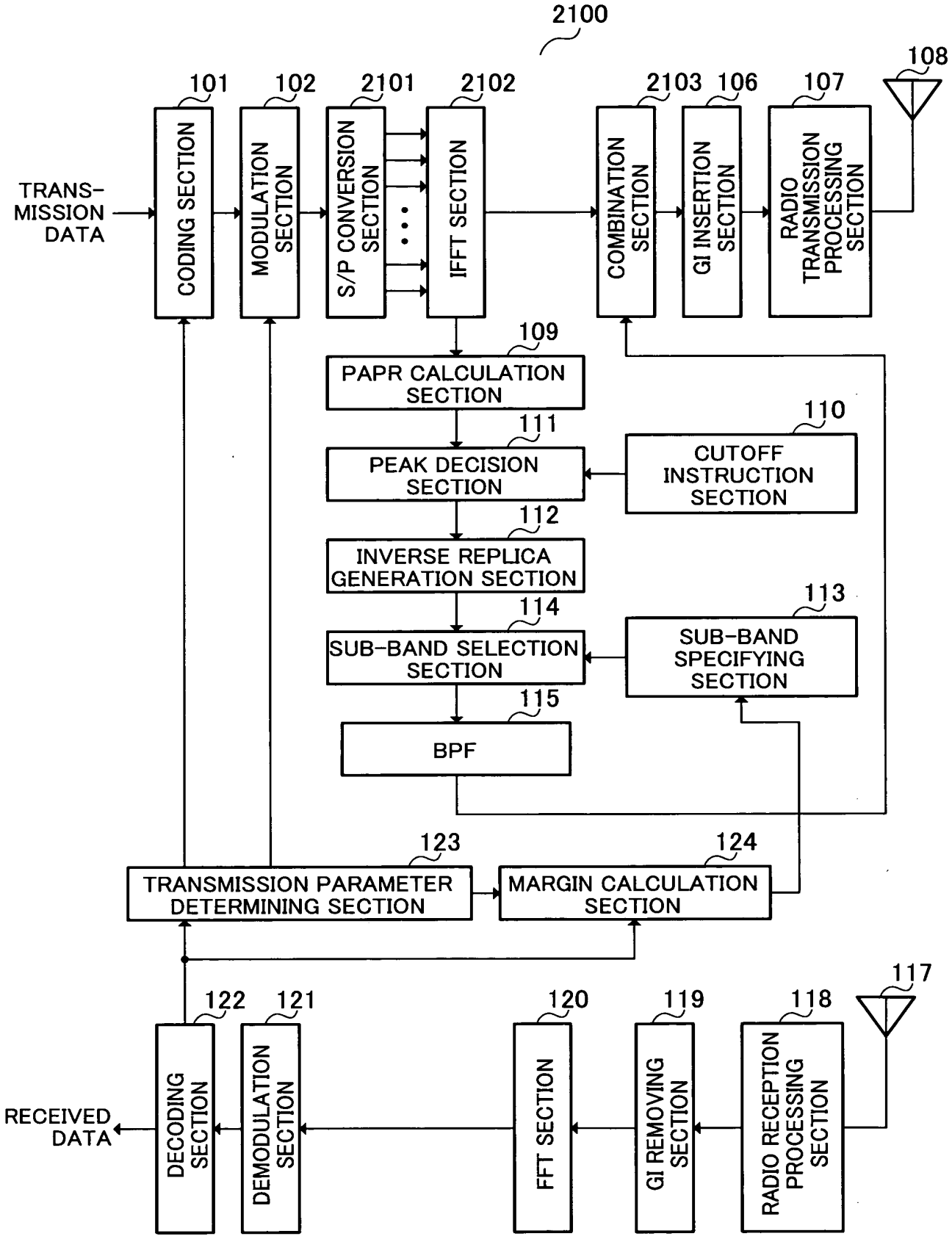
2100
101
102
2101
2102
2103
106
107
108
TRANS-
MISSION
DATA
CODING SECTION
MODULATION SECTION
S/P CONVERSION SECTION
IFFT SECTION
COMBINATION SECTION
GI INSERTION SECTION
RADIO TRANSMISSION PROCESSING SECTION
109
PAPR CALCULATION SECTION
110
111
PEAK DECISION SECTION
CUTOFF INSTRUCTION SECTION
112
INVERSE REPLICA GENERATION SECTION
113
114
SUB-BAND SELECTION SECTION
SUB-BAND SPECIFYING SECTION
115
BPF
123
124
TRANSMISSION PARAMETER DETERMINING SECTION
MARGIN CALCULATION SECTION
117
122
121
120
119
118
RECEIVED
DATA
DECODING SECTION
DEMODULATION SECTION
FFT SECTION
GI REMOVING SECTION
RADIO RECEPTION PROCESSING SECTION

FIG.21

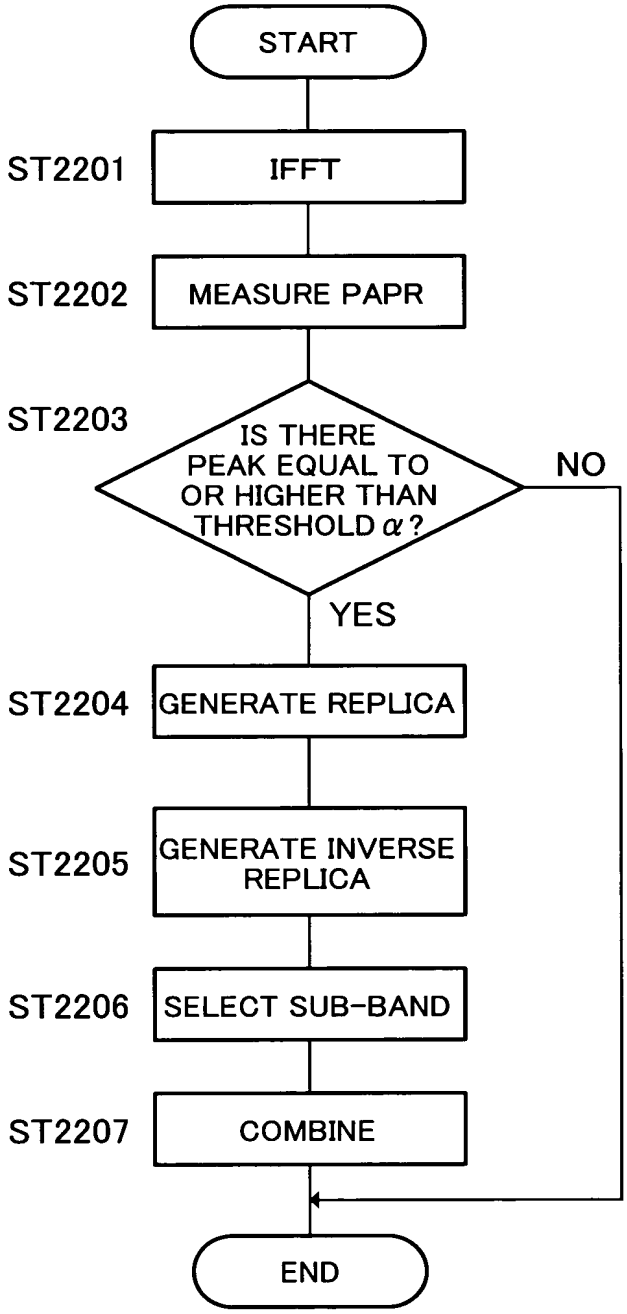
START
ST2201
IFFT
ST2202
MEASURE PAPR
ST2203
IS THERE PEAK EQUAL TO OR HIGHER THAN THRESHOLD α ?
NO
YES
ST2204
GENERATE REPLICA
ST2205
GENERATE INVERSE REPLICA
ST2206
SELECT SUB-BAND
ST2207
COMBINE
END

FIG.22